

AD-A071 615

NAVAL RESEARCH LAB WASHINGTON DC

F/G 8/10

COMPUTER PROGRAM THAT PROCESSES ENVIRONMENTAL DATA TO FACILITAT--ETC(U)

JUN 79 M L BLODGETT

NRL-8305

NL

UNCLASSIFIED

| OF |

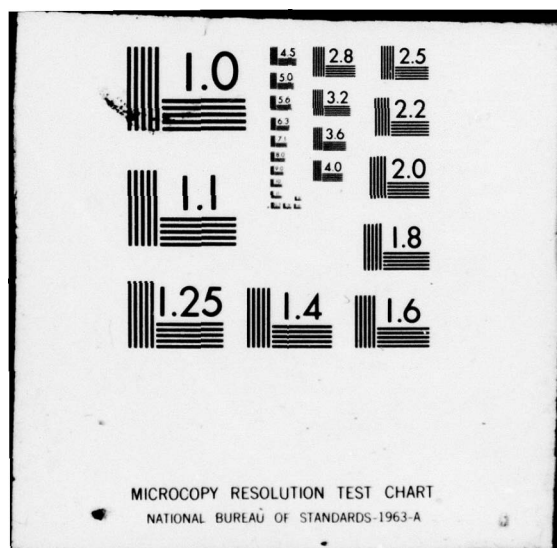
AD
A071615



END
DATE
FILMED

8-79

DDC



AD A 071 615



NRL Report 8305

Computer Program That Processes Environmental Data to Facilitate Contouring

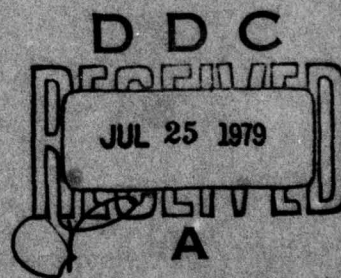
MARILYN L. BLODGETT

*Applied Ocean Acoustics Branch
Acoustics Division*

LEVEL

June 21, 1979

DDC FILE COPY



NAVAL RESEARCH LABORATORY
Washington, D.C.

Approved for public release; distribution unlimited.

79 07 25 036

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER NRL Report 8305	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) COMPUTER PROGRAM THAT PROCESSES ENVIRONMENTAL DATA TO FACILITATE CONTOURING	5. TYPE OF REPORT & PERIOD COVERED Interim report on a continuing NRL problem	
7. AUTHOR(s) Marilyn L. Blodgett	6. PERFORMING ORG. REPORT NUMBER	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Research Laboratory Washington, DC 20375	8. CONTRACT OR GRANT NUMBER(s) F52552	
11. CONTROLLING OFFICE NAME AND ADDRESS Naval Electronic Systems Command Washington, DC 20360	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS NRL Problem S01-37 Program element 62759N Project ZF52-552-003	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	12. REPORT DATE June 21, 1979	
	13. NUMBER OF PAGES 26	
	15. SECURITY CLASS. (of this report) UNCLASSIFIED	
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Data processing Oceanographic data Bathymetry Magnetism Contour charts		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) A program has been written to read GEODATA formatted tapes containing bathymetric and/or magnetism data. The program identifies the high and low values and finds or interpolates values of a certain interval (every 500 meters, every 50 gammas). The program was written to aid the scientist in producing contour charts. The program was written in Fortran IV for use on the CDC 3800; however, it can be changed rather easily to run on other systems.		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE
S/N 0102-914-6601

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

251 950

LB

CONTENTS

1.0 IDENTIFICATION	1
2.0 PURPOSE	2
3.0 USAGE	3
4.0 METHOD OR ALGORITHM	4
5.0 FLOWCHART AND/OR SOURCE LANGUAGE LISTING .	4
6.0 COMPARISON	4
7.0 TEST METHOD AND RESULTS	4
8.0 REMARKS	5
APPENDIX A — Sample Input Data Formats	5
APPENDIX B — Deck assembly	6
APPENDIX C — Sample Output Listings	10
APPENDIX D — Flow Chart	13
APPENDIX E — Source Language Listing	14

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DDC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By _____	
Distribution/ _____	
Availability Codes	
Disc	Avail and/or special
A	

**COMPUTER PROGRAM THAT PROCESSES ENVIRONMENTAL
DATA TO FACILITATE CONTOURING**

1.0 IDENTIFICATION

1.1 Title

A program to find the high and low values and/or find or interpolate all values which are multiples of a specified value.

1.2 Identification Name

HIGHLOW.

1.3 Classification Code

None.

1.4 RCC Identification Number

None.

1.5 Entry Points

HIGHLOW.

1.6 Programming Language

Language: CDC 3600/3800 Fortran.
Routine type: program.
Operating System: Drum Scope 2.1.

1.7 Computer and Configuration

CDC-3800.

1.8 Contributor or Programmer

Marilyn L. Blodgett, Code 8122MB, Applied Ocean Acoustics Branch, Acoustics Division, written for the Environmental Sciences Group, Acoustics Division.

1.9 Contributing Organization

NRL — Naval Research Laboratory, Washington, DC 20375.

Manuscript submitted December 27, 1978.

BLODGETT

1.10 Program Availability

If supplied with a magnetic tape, the Environmental Sciences Group, Acoustics Division, will make a copy of this program available.

1.11 Verification

This program has been used and tested by the Environmental Sciences Group, Acoustics Division.

1.12 Date

June 1978.

2.0 PURPOSE

2.1 Description of the Routine

This program reads the bathymetric or magnetic data collected by an oceanographic or geophysical experiment from a magnetic tape or tapes and finds the high and low values and/or all readings which are multiples of a specified value (such as every 100 meters or every 100 gammas). It also checks to see if there are multiples of the specified value between any two readings. If so, the program will interpolate the required fixes. The input tape(s) containing the bathymetric and/or magnetic data is written in the format recommended by the National Academy of Sciences. There is one logical record (of 80 characters) for each data point. The input tape(s) may also contain navigational data, but each data type is separated by an end-of-file mark with a double end-of-file mark at the end of all the data.

The program has one input card. The Parameter card specifies the value for which all multiples are to be found or interpolated, the number of input tape(s), the number of files to be skipped on the input tape(s), the type of data to be read (uncorrected fathoms or meters or corrected fathoms or meters for bathymetry or total or residual magnetic intensity for magnetics), the specific portion of data to be read, and the type of output desired.

With all the required parameters defined, the program starts to read the input tape one record at a time. If only certain portions of the data are to be used, the program will check to see that the fix falls on the defined grid or that it was taken on or between the two specified dates.

The program will continue reading the first input tape until it reads an end-of-file mark or a fix taken after the last specified date. If there are any additional tapes, the program will read them in a similar manner. The number of files to be skipped over on the new input tape and the beginning and end dates are contained on an Extra card. A maximum of four input tapes can be used.

NRL REPORT 8305

All the values, read or interpolated, will either be written on a new tape, be printed out on logical unit 61, or both.

2.2 Problem Background

This program was written to aid the oceanographer/geophysicist in producing contour charts of bathymetric and/or magnetics data. HIGHLOW identifies the high and low values and finds or interpolates values of a certain interval (every 500 meters, every 50 gammas). The program presupposes edited data.

3.0 USAGE

3.1 Calling Sequence or Operation Procedure

Not applicable.

3.2 Arguments, Parameters, and/or Initial Conditions

Not applicable.

3.3 Space Required (Decimal and Octal)

3.3.1 Unique Storage:

4035 octal (2077 decimal) locations exclusive of system library functions.

3.3.2 Common Blocks:

None.

3.3.3 Temporary Storage:

None.

3.7 Input

There is one Parameter card which specifies the number and content of the input data tapes, the requirements for selecting data points, and the type of output. An Extra card must be provided for each additional input tape. The actual bathymetric and/or magnetics data is read in via magnetic tape on logical units 10-13. Appendix A presents a sample of the input data formats. Appendix B is a complete description of the input deck setup.

3.8 Output

The program will write all the required fixes and values on the standard printer (logical unit 61) and/or on a magnetic tape (logical unit 40). The format of the output tape will be the same as that of the input tape (Appendix A). Appendix C presents sample output listings.

BLODGETT

3.9 Formats

Appendix B describes the Program deck structure.

3.10 External Routines and Symbols

SKIPFILE, XABSF, ABS, MOD, REWIND, ENDFILE.

3.11 Timing

The time required depends on the number of data read and the number of fixes interpolated.

3.12 Accuracy

Not applicable.

3.13 Cautions to Users

None.

3.14 Program Deck Structure

Appendix B describes the program deck structure.

3.15 Reference

M.L. Blodgett and J.V. Massingill, "A Program for Storing Oceanographic Data on Magnetic Tape," NRL Report 7861, March 1975.

4.0 METHOD OR ALGORITHM

Not applicable

5.0 FLOW CHART AND/OR SOURCE LANGUAGE LISTING

The flow chart and listing are given in Appendixes D and E.

6.0 COMPARISON

No other known programs are available for comparison.

7.0 TEST METHOD AND RESULTS

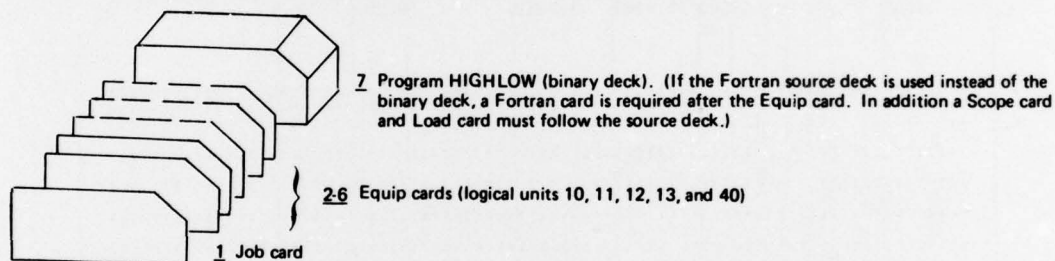
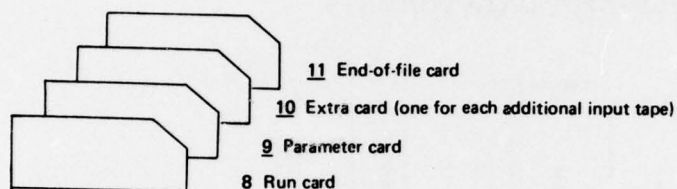
Sample bathymetric and magnetics output listings are given in Appendix C.

8.0 REMARKS

None.

Appendix B

DECK ASSEMBLY



<u>Number</u>	<u>Card Title</u>	<u>Column Number</u>	<u>Description</u>
1	Job	1-21	7/9 JOB, Charge No., ID No., time. See page 2-2 of the 3600/3800 Computer System Drum Scope Manual.
2-6	Equip	1-18	7/9 EQUIP, 10 = **, RO, HI 7/9 EQUIP, 40 = **, WO, HI RO = read only; WO = write only; HI = high density. See page 2-3 of the 3600/3800 Computer Drum Scope Manual.
7	Program	Deck of HIGHLOW	This is the main program. If the Fortran source deck is used instead of the binary deck, a Fortran card is required. The Fortran card reads 7/9 FTN, L, R, X. In addition a Scope card with SCOPE starting in Column 10 and a Load card must follow the source deck.

NRL REPORT 8305

<u>Number</u>	<u>Card Title</u>	<u>Column Number</u>	<u>Description</u>
8	Run	1-13	7/9 RUN, T, P, R, M, D T = time limits in minutes; P = maximum number of print or write operations; R, M, and D may be left blank. See page 2-15 of the 3600/3800 Computer System Drum Scope Manual.
9	Parameter	1-10	1000 (IDEPTH) Specified interval. Needed only if column 18 = 1.
		11	1, 2, 3, or 4 (NOTP) Number of input tapes. There can be a maximum of four tapes.
		12	1, 2, 3, 4, 5, or 6 (KIND) 1 = value in uncorrected fathoms; 2 = value in corrected fathoms; 3 = value in uncorrected meters; 4 = value in corrected meters; 5 = value is total magnetic intensity; 6 = value is residual magnetic intensity.
		14	1 or 2 (LOHI) 1 = find all high and low values; 2 = do not find all high and low values.
		16	1, 2, or 3 (INEED) 1 = write information on tape; 2 = print out information; 3 = write on tape and print out information.
		18	1 or 2 (IMOD) 1 = find the fixes for all values which are multiples of a specified value (columns 1-10); 2 = do not find fixes for all values which are multi- ples of a specified value.
		20	2 (ISKIP) Number of files to be skipped on the first input tape.
		22	1 or 2 (IFILE) 1 = bathymetry file to be read; 2 = magnetics file to be read.

BLODGETT

<u>Number</u>	<u>Card Title</u>	<u>Column Number</u>	<u>Description</u>
24		0, 1 or 2 (ICOPY)	<p>0 = only the data within a certain area are to be copied. The latitude and longitude values defining the area are in columns 41-80.</p> <p>1 = Only the data taken during a certain time interval are to be copied. The beginning and end times for input tape 1 are defined in columns 25-40.</p> <p>2 = All the data are to be copied.</p> <p>Columns 25-40 are used if column 24 = 1.</p>
25-32		07172130	<p>This is the time the program starts copying the data.</p> <p>Columns 25-26 = month;</p> <p>columns 27-28 = day;</p> <p>columns 29-30 = hour;</p> <p>columns 31-32 = minutes.</p>
33-40		08152215	<p>This is the time the program stops copying the data.</p> <p>Columns 33-34 = month;</p> <p>columns 35-36 = day;</p> <p>columns 37-38 = hour;</p> <p>columns 39-40 = minutes.</p> <p>In this example for columns 25-40, the data between July 17 and 21 hours and 30 minutes and August 15 at 22 hours and 15 minutes will be copied from input tape 1.</p> <p>Columns 41-80 are used if column 24 = 0.</p>
41-50		40.50	The southernmost latitude of the area to be copied.
51-60		50.00	The northernmost latitude.
61-70		-28.00	The westernmost longitude.
71-80		-14.00	The easternmost longitude.

NRL REPORT 8305

<u>Number</u>	<u>Card Title</u>	<u>Column Number</u>	<u>Description</u>
			In this example for columns 41-80, the positions are in degrees and hundredths of a degree (not degrees and minutes). Southern latitudes and western longitudes are preceded by a negative sign (-).
10	Extra	1-4	0, 1, or 2 (ISKIP) Number of files to be skipped on the second input tape.
		5-12	02250330 Date and time of the first data point to be read and plotted from the second input tape.
		13-20	02280830 Date and time of the last data point to be read and plotted from the second input tape.
			There must be an Extra card for each additional input tape. Since there is a maximum of four input tapes, the maximum number of Extra cards is three. The dates for the first input tape are on the parameter card.
11	End-of-file		Terminates the run.

Appendix C

SAMPLE OUTPUT LISTINGS

HIGH AND LOW MO DAY	VALUES HR	MIN	LATITUDE	LONGITUDE	DEPTH IN CORRECTED METERS
8 19	10	400	59.4105	-7.5401	1130 H
8 19	11	350	59.6197	-7.4533	954 L
8 19	12	0	59.7143	-7.4124	967 H
8 19	12	400	59.8654	-7.3445	902 L
8 19	12	440	59.8805	-7.3377	967 H
8 19	12	510	59.9075	-7.3268	789 L
8 19	12	550	59.9266	-7.3237	819 H
8 19	13	250	60.0375	-7.2754	473 L
8 19	14	300	60.2754	-7.1559	1159 H
8 19	17	95	60.8442	-6.7773	156 L
8 19	17	150	60.8633	-6.7612	183 H
8 19	17	200	60.8807	-6.7467	156 L
8 19	17	250	60.8981	-6.7321	186 H
8 19	18	250	61.1157	-6.5579	130 L
8 19	19	200	61.3178	-6.4289	234 H
8 19	19	250	61.3347	-6.4194	221 L
8 19	19	350	61.3686	-6.4006	336 H
8 19	19	450	61.4025	-6.3817	311 L
8 19	19	500	61.4154	-6.3722	326 H
8 19	20	100	61.4514	-6.3328	262 L
8 19	20	150	61.5104	-6.3225	302 H
8 19	20	200	61.5294	-6.3122	272 L
8 19	20	250	61.5485	-6.3019	297 H
8 19	21	575	61.8878	-6.1208	106 L
8 19	22	350	62.0224	-6.0458	141 H
8 19	22	550	62.0538	-6.0078	97 L
8 19	23	0	62.1117	-5.9583	130 H
8 19	23	100	62.1503	-5.9788	104 L
8 19	23	250	62.1724	-5.9675	126 H
8 19	23	550	62.1688	-5.9693	101 L
8 20	3	50	63.0251	-5.7248	1849 H
8 20	3	100	63.0434	-5.7195	1385 L
8 20	3	250	63.0586	-5.7037	2027 H
8 20	3	350	63.1358	-5.6510	2016 L
8 20	3	550	63.2112	-5.6609	2132 H
8 20	4	45	63.2474	-5.6497	2108 L
8 20	4	100	63.2687	-5.6452	2189 H
8 20	4	130	63.2803	-5.6428	2167 L
8 20	4	200	63.3074	-5.6371	2269 H
8 20	4	255	63.3286	-5.6326	1979 L
8 20	4	300	63.3460	-5.6289	2001 H
8 20	4	450	63.4011	-5.6148	1970 L
8 20	6	550	63.8861	-5.4757	3451 H
8 20	7	50	63.9222	-5.4713	3137 L
8 20	7	360	64.0385	-5.4351	3400 H
8 20	7	380	64.0454	-5.4335	3360 L
8 20	8	0	64.1217	-5.4150	3585 H
8 20	8	500	64.3268	-5.3677	2590 L
8 20	9	0	64.3650	-5.3367	3046 H
8 20	9	150	64.4134	-5.3385	2487 L
8 20	9	350	64.4764	-5.3405	3208 H
8 20	9	420	64.4921	-5.3410	3101 L
8 20	9	550	64.5394	-5.3424	3259 H
8 20	10	0	64.5551	-5.3429	3188 L
8 20	10	50	64.5709	-5.3434	3335 H
8 20	10	200	64.6181	-5.3449	2493 L
8 20	10	230	64.6275	-5.3452	2741 H
8 20	10	300	64.6496	-5.3459	2544 L
8 20	10	340	64.6622	-5.3463	3005 H

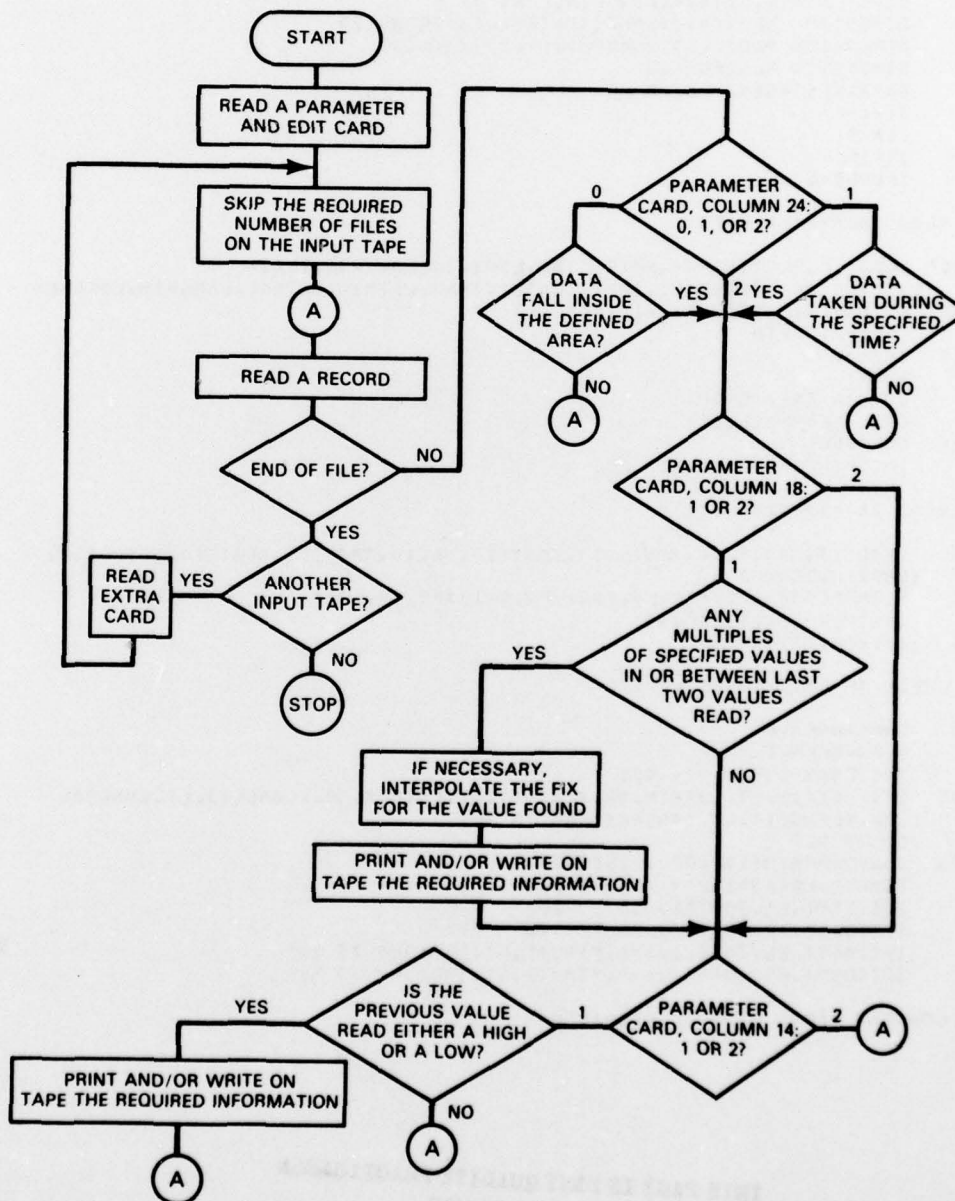
NRL REPORT 8305

ALL VALUES WHICH ARE MULTIPLES OF				10		
MO	DAY	HR	MIN	LATITUDE	LONGITUDE	DEPTH IN CORRECTED METERS
8	19	10	0	59.2678	-7.5888	1050
8	19	10	50	59.2815	-7.5825	1060
8	19	10	50	59.2921	-7.5782	1070
8	19	10	100	59.3051	-7.5736	1080
8	19	10	150	59.3217	-7.5684	1090
8	19	10	150	59.3428	-7.5616	1100
8	19	10	250	59.3648	-7.5546	1110
8	19	10	250	59.3877	-7.5473	1120
8	19	10	400	59.4105	-7.5401	1130
8	19	10	400	59.4232	-7.5360	1120
8	19	10	400	59.4359	-7.5320	1110
8	19	10	500	59.4486	-7.5279	1100
8	19	10	500	59.4581	-7.5249	1090
8	19	10	550	59.4676	-7.5219	1080
8	19	10	550	59.4729	-7.5202	1070
8	19	10	550	59.4782	-7.5185	1060
8	19	10	550	59.4835	-7.5168	1050
8	19	11	0	59.4916	-7.5128	1040
8	19	11	0	59.5039	-7.5054	1030
8	19	11	0	59.5162	-7.4979	1020
8	19	11	100	59.5275	-7.4916	1010
8	19	11	100	59.5366	-7.4878	1000
8	19	11	150	59.5463	-7.4838	990
8	19	11	150	59.5589	-7.4786	980
8	19	11	200	59.5738	-7.4724	970
8	19	11	250	59.5990	-7.4619	960
8	19	11	350	59.6634	-7.4344	960
8	19	12	0	59.7709	-7.3870	960
8	19	12	300	59.8308	-7.3601	950
8	19	12	300	59.8413	-7.3554	940
8	19	12	350	59.8494	-7.3517	930
8	19	12	350	59.8551	-7.3491	920
8	19	12	350	59.8608	-7.3466	910
8	19	12	400	59.8673	-7.3437	910
8	19	12	400	59.8696	-7.3426	920
8	19	12	400	59.8719	-7.3416	930
8	19	12	400	59.8742	-7.3405	940
8	19	12	400	59.8766	-7.3395	950
8	19	12	400	59.8789	-7.3384	960
8	19	12	440	59.8816	-7.3373	960
8	19	12	440	59.8831	-7.3367	950
8	19	12	440	59.8847	-7.3360	940
8	19	12	440	59.8862	-7.3354	930
8	19	12	440	59.8877	-7.3348	920
8	19	12	440	59.8893	-7.3342	910
8	19	12	440	59.8908	-7.3336	900
8	19	12	440	59.8924	-7.3330	890
8	19	12	440	59.8939	-7.3324	880
8	19	12	440	59.8954	-7.3318	870
8	19	12	440	59.8970	-7.3311	860
8	19	12	440	59.8985	-7.3305	850
8	19	12	440	59.9000	-7.3299	840
8	19	12	440	59.9016	-7.3293	830
8	19	12	440	59.9031	-7.3287	820
8	19	12	440	59.9047	-7.3281	810
8	19	12	440	59.9062	-7.3275	800
8	19	12	440	59.9077	-7.3269	790
8	19	12	510	59.9085	-7.3267	790
8	19	12	510	59.9148	-7.3257	800

BLODGETT

HIGH AND LOW	VALUES	AND ALL	VALUES WHICH	ARE MULTIPLES OF	DEPTH ¹⁰ IN CORRECTED METERS		
MO DAY	HR	MIN	LATITUDE	LONGITUDE			
8	19	10	0	59.2678	-7.5888	1050	
8	19	10	50	59.2815	-7.5825	1060	
8	19	10	50	59.2921	-7.5782	1070	
8	19	10	100	59.3051	-7.5736	1080	
8	19	10	150	59.3217	-7.5684	1090	
8	19	10	150	59.3428	-7.5616	1100	
8	19	10	250	59.3648	-7.5546	1110	
8	19	10	250	59.3877	-7.5473	1120	
8	19	10	400	59.4105	-7.5401	1130	H
8	19	10	400	59.4232	-7.5360	1120	
8	19	10	400	59.4359	-7.5320	1110	
8	19	10	500	59.4486	-7.5279	1100	
8	19	10	500	59.4581	-7.5249	1090	
8	19	10	550	59.4676	-7.5219	1080	
8	19	10	550	59.4729	-7.5202	1070	
8	19	10	550	59.4782	-7.5185	1060	
8	19	10	550	59.4835	-7.5168	1050	
8	19	11	0	59.4916	-7.5128	1040	
8	19	11	0	59.5039	-7.5054	1030	
8	19	11	0	59.5162	-7.4979	1020	
8	19	11	100	59.5275	-7.4916	1010	
8	19	11	100	59.5366	-7.4878	1000	
8	19	11	150	59.5463	-7.4838	990	
8	19	11	150	59.5589	-7.4786	980	
8	19	11	200	59.5738	-7.4724	970	
8	19	11	250	59.5990	-7.4619	960	
8	19	11	350	59.6197	-7.4533	954	L
8	19	11	350	59.6634	-7.4344	960	
8	19	12	0	59.7143	-7.4124	967	H
8	19	12	0	59.7709	-7.3870	960	
8	19	12	300	59.8308	-7.3601	950	
8	19	12	300	59.8413	-7.3554	940	
8	19	12	350	59.8494	-7.3517	930	
8	19	12	350	59.8551	-7.3491	920	
8	19	12	350	59.8608	-7.3466	910	
8	19	12	400	59.8654	-7.3445	902	L
8	19	12	400	59.8673	-7.3437	910	
8	19	12	400	59.8696	-7.3426	920	
8	19	12	400	59.8719	-7.3416	930	
8	19	12	400	59.8742	-7.3405	940	
8	19	12	400	59.8766	-7.3395	950	
8	19	12	400	59.8789	-7.3384	960	
8	19	12	440	59.8805	-7.3377	967	H
8	19	12	440	59.8816	-7.3373	960	
8	19	12	440	59.8831	-7.3367	950	
8	19	12	440	59.8847	-7.3360	940	
8	19	12	440	59.8862	-7.3354	930	
8	19	12	440	59.8877	-7.3348	920	
8	19	12	440	59.8893	-7.3342	910	
8	19	12	440	59.8908	-7.3336	900	
8	19	12	440	59.8924	-7.3330	890	
8	19	12	440	59.8939	-7.3324	880	
8	19	12	440	59.8954	-7.3318	870	
8	19	12	440	59.8970	-7.3311	860	
8	19	12	440	59.8985	-7.3305	850	
8	19	12	440	59.9000	-7.3299	840	
8	19	12	440	59.9016	-7.3293	830	
8	19	12	440	59.9031	-7.3287	820	
8	19	12	440	59.9047	-7.3281	810	

Appendix D
FLOW CHART



Appendix E

SOURCE LANGUAGE LISTING

```

PROGRAM HIGHLOW
REAL LATMIN,LATMAX, LONGMIN, LONGMAX
DIMENSION XLAT(3), XLONG(3), IREAD(3), READ(2)
DIMENSION MONTH(3), IDAY(3), HR(3), XMIN(3)
DIMENSION MESSAGE(2)
DATA(MESSAGE=2H L,2H H)
ILBL=0
IEX=0
IT=10
IFUDGE=0

C READ PARAMETER CARD

100 READ(60,250) IDEPTH,NOTP,KIND,LGHT, INEED,IMTD,ISKIP
1,IFILE,ICOPY,IDATE1,IHR1,IDATE2,IHR2,LATMIN,LATMAX,LONGMIN,LONGMAX
250 FORMAT(I10,2I1,6I2,4I4,4F10.5)
DEPTH=IDEPTH
507 IREC=1
NUM=1
DO 334 I=1,ISKIP
CALL SKIPFILE(IT)
334 CONTINUE
IF(IFILE.EQ.2) GO TO 600

C READ BATHYMETRY DATA

200 READ(IT,38) IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1),
1UNFATH,ICRMET
38 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,1)XF5,I5,13X)
IF(ICHECK,IT)200,45
45 IF(EOF,IT)500,50

C CHECK IF DATA TO BE COPIED

50 UNFS=UNFATH
ICRS=ICRMET
IF(ICOPY-1)925,926,927
925 IF(XLAT(1).LT.LATMIN.OR.XLAT(1).GT.LATMAX.JR.XLONG(1).LT.LONGMIN
1.0R.XLONG(1).GT.LONGMAX) GO TO 200
GO TO 927
926 IDAY1=MONTH(1)*100 + IDAY(1)
MINUTE=HR(1)*100 + XMIN(1)/10
IF(IDAY1.LT.IDATE1) GO TO 200
IF(IDAY1.GT.IDATE2) GO TO 500
IF(IDAY1.EQ.IDATE1.AND.MINUTE.LT.IHR1)GO TO 200
IF(IDAY1.EQ.IDATE2.AND.MINUTE.GT.IHR2)GO TO 500

C CONVERT DEPTH DATA IF REQUIRED

```

THIS PAGE IS BEST QUALITY PRACTICABLE
FROM COPY FURNISHED TO DDC

NRL REPORT 8305

```

927 IF(KIND.EQ.4) GO TO 55
IF(KIND-2)101,102,103
101 IREAD(1)=UNFATH/10.0
GO TO 104
102 READ(1)=ICRMET/1.8288
IF( READ(1).LT.0)GO TO 551
IREAD(1)= READ(1)+.5
GO TO 104
551 IREAD(1)= READ(1)-.5
GO TO 104
103 READ(1)=(UNFATH/10.0)*1.8288
IF( READ(1).LT.0)GO TO 552
IREAD(1)= READ(1)+.5
GO TO 104
552 IREAD(1)= READ(1)-.5
GO TO 104

```

C READ MAGNETICS

```

600 READ(IT,604)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1),
1ITMI,IRMI
604 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,23X2I5,5X)
IF(10CHECK,IT)600,601
601 IF(EOF,IT)500,602

```

C CHECK IF DATA TO BE COPIED

```

602 ITMIS=ITMI
IRMIS=IRMI
IF(ICOPY-1)928,929,930
928 IF(XLAT(1).LT.LATMIN.OR.XLAT(1).GT.LATMAX.OR.XLONG(1).LT.LONGMIN
1.OR.XLONG(1).GT.LONGMAX) GO TO 600
GO TO 930
929 IDAY1=MONTH(1)*100 + IDAY(1)
MINUTE=HR(1)*100 + XMIN(1) / 10
IF(IDAY1.LT.IDATE1) GO TO 600
IF(IDAY1.GT.IDATE2) GO TO 500
IF(IDAY1.EQ.IDATE1.AND.MINUTE.LT.IHR1)GO TO 600
IF(IDAY1.EQ.IDATE2.AND.MINUTE.GT.IHR2)GO TO 500
930 IF(KIND.EQ.5)GO TO 603
IREAD(1)=IRMI
GO TO 104
603 IREAD(1)=ITMI
GO TO 104
55 IREAD(1)=ICRMET

```

C CHECK IF MULTIPLES OF SPECIFIED DEPTH REQUIRED

```

104 IF(IMOD-1)402,305,402

```

C WRITE LABELS AT TOP OF PAGE

BLODGETT

```

888 IF(L0HI.EQ.1.AND.IM0D.EQ.1) GO TO 909
IF(L0HI.EQ.1.AND.IM0D.EQ.2) GO TO 910
WRITE(61,913) IDEPTH
913 FORMAT(1H1,33HALL VALUES WHICH ARE MULTIPLES OF,I10)
GO TO 914
909 WRITE(61,911) IDEPTH
911 FORMAT(1H1,57HHIGH AND LOW VALUES AND ALL VALUES WHICH ARE MULTIPL
IES OF,I10)
GO TO 914
910 WRITE(61,912)
912 FORMAT(1H1,19HHIGH AND LOW VALUES)
GO TO 914
914 GO TO(901,902,903,904,915,916),KIND
901 WRITE(61,905)
905 FORMAT(1H ,88H      MO DAY      HR      MIN      LATITUDE      LONGITUDE
1      DEPTH IN UNCORRECTED FATHOMS/)
GO TO 164
902 WRITE(61,906)
906 FORMAT(1H ,86H      MO DAY      HR      MIN      LATITUDE      LONGITUDE
1      DEPTH IN CORRECTED FATHOMS/)
GO TO 164
903 WRITE(61,907)
907 FORMAT(1H ,87H      MO DAY      HR      MIN      LATITUDE      LONGITUDE
1      DEPTH IN UNCORRECTED METERS/)
GO TO 164
915 WRITE(61,917)
917 FORMAT(1H ,84H      MO DAY      HR      MIN      LATITUDE      LONGITUDE
1      TOTAL MAGNETIC INTENSITY/)
GO TO 164
916 WRITE(61,918)
918 FORMAT(1H ,87H      MO DAY      HR      MIN      LATITUDE      LONGITUDE
1      RESIDUAL MAGNETIC INTENSITY/)
GO TO 164
904 WRITE(61,908)
908 FORMAT(1H ,85H      MO DAY      HR      MIN      LATITUDE      LONGITUDE
1      DEPTH IN CORRECTED METERS/)
164 NUM=1
IF(ITRIP.EQ.4) GO TO 472
IF(ITRIP-2) 162,172,1602
162 WRITE(61,40)MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1),IREAD
1(1)
40  FORMAT(1H ,5XI2,I4,4XF2,3XF3,5XF8.4,5XF9.4,10XI5,1XA2)
NUM=NUM + 1
GO TO 305
305 IF(IFILE.EQ.2) GO TO 605

C READ BATHYMETRY DATA

315 READ(IT,38)IYEAR,MONTH(2),IDAY(2),HR(2),XMIN(2),XLAT(2),XLONG(2),

```

NRL REPORT 8305

```

1UNFATH,ICRMET
  IF(ICHECK,IT) 315,700
700  IF(EOF,IT)500,701
701  IF(ICOPY-1)931,932,3333

```

C CHECK IF DATA TO BE COPIED

```

931  IF(XLAT(2).LT.LATMIN.OR.XLAT(2).GT.LATMAX.JR.XLONG(2).LT.LONGMIN
1.OR.XLONG(2).GT.LONGMAX) GO TO 315
GO TO 3333
932  IDAY1=MONTH(2)*100 + IDAY(2)
MINUTE=HR(2)*100 + XMIN(2)/10
IF(IDAY1.LT.IDATE1) GO TO 315
IF(IDAY1.GT.IDATE2) GO TO 500
IF(IDAY1.EQ.IDATE1.AND.MINUTE.LT.IHR1)GO TO 315
IF(IDAY1.EQ.IDATE2.AND.MINUTE.GT.IHR2)GO TO 500
GO TO 3333

```

C CONVERT DEPTH DATA IF REQUIRED

```

3333 IF(KIND.EQ.4) GO TO 705
IF(KIND-2)702,703,704
702  IREAD(2)=UNFATH/10.0
GO TO 756
703  READ(2)=ICRMET/1.8288
IF( READ(2).LT.0)GO TO 553
IREAD(2)= READ(2)+.5
GO TO 756
553  IREAD(2)= READ(2)-.5
GO TO 756
704  READ(2)=(UNFATH/10.0)*1.8288
IF( READ(2).LT.0)GO TO 554
IREAD(2)= READ(2)+.5
GO TO 756
554  IREAD(2)= READ(2)-.5
756  IUBT=XABSF(IREAD(1)-IREAD(2))
GO TO 706

```

C READ MAGNETICS

```

605  READ(IT,604)IYEAR,MONTH(2),IDAY(2),HR(2),XMIN(2),XLAT(2),XLONG(2),
1ITMI,IRMI
IF(ICHECK,IT)605,606
606  IF(EOF,IT)500,607

```

C CHECK IF DATA TO BE COPIED

```

607  IF(ICOPY-1)934,935,936
934  IF(XLAT(2).LT.LATMIN.OR.XLAT(2).GT.LATMAX.JR.XLONG(2).LT.LONGMIN
1.OR.XLONG(2).GT.LONGMAX) GO TO 605

```

BLODGETT

```

GO TO 936
935 IDAY1=MONTH(2)*100 + IDAY(2)
    MINUTE=HR(2)*100 + XMIN(2)/10
    IF(IDAY1.LT.IDATE1) GO TO 605
    IF(IDAY1.GT.IDATE2) GO TO 500
    IF(IDAY1.EQ.IDATE1.AND.MINUTE.LT.IHR1)GO T 605
    IF(IDAY1.EQ.IDATE2.AND.MINUTE.GT.IHR2)GO T 500
936 IF(KIND.EQ.5) GO TO 608
    IREAD(2)=IRMI
    GO TO 746
608 IREAD(2)=ITMI
    GO TO 746
705 IREAD(2)=ICRMET
    GO TO 756
746 IUBT=XABSF(IREAD(1)-IREAD(2))

C CHECK IF ANY MULTIPLES OF SPECIFIED DEPTH BETWEEN TWO FIXES
706 SLOT1=IREAD(1)/ DEPTH
    ISLOT1=ISLOT1
    SLOT2=IREAD(2)/ DEPTH
    ISLOT2=ISLOT2
    IF(MOD(IREAD(1),IDEPTH).EQ.0)GO TO 970
    ILBL=0
    IF(ISLOT2-ISLOT1)900,833,300
444 XLAT(1)=XLAT(2)
    XLONG(1)=XLONG(2)
    IREAD(1)=IREAD(2)
    MONTH(1)=MONTH(2)
    IDAY(1)=IDAY(2)
    HR(1)=HR(2)
    XMIN(1)=XMIN(2)
    GO TO 305
900 IF(IREAD(1).LT.0.AND.IREAD(2).LT.0) GO TO 935
    ZNUM=ISLOT1-ISLOT1
    ISLOT1=ISLOT1 - 1
    GO TO 301
300 IF(IREAD(1).GE.0.AND.IREAD(2).GE.0) GO TO 309
    ZNUM=ISLOT1-ISLOT1
    ISLOT1=ISLOT1 + 1
    GO TO 301
905 ISLOT1=ISLOT1-1
    ZNUM=ISLOT1-ISLOT1
    GO TO 301
309 ISLOT1=ISLOT1 + 1
    ZNUM=ISLOT1-ISLOT1

C INTERPOLATE FIXES
301 DENOM=SLOT2-SLOT1

```

NRL REPORT 8305

```

CALAT=XLAT(1)+(ZNUM/DENOM)*(XLAT(2)-XLAT(1))
CALONG=XLONG(1)+(ZNUM/DENOM)*(XLONG(2)-XLONG(1))
TEST=ZNUM/DENOM
XYZ=TEST*(IREAD(2)-IREAD(1))
XX=IREAD(1)+XYZ
IF(XX.LT.0) GO TO 559
XX=XX + .5
GO TO 563
559 XX=XX - .5
563 ICALMET=XX
IF(ICALMET.EQ.IREAD(1))GO TO 307
IF(ICALMET.EQ.IREAD(2))GO TO 307
C PRINT AND/OR WRITE ON TAPE THE REQUIRED INFORMATION

323 IF(INEED-2)70,72,71
70 GO TO(170,170,270,270,3370,470),KIND
170 WRITE(40,171)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),CALAT,CALONG,ICA
1LMET
171 FORMAT(13X,3I2,1XF2,F3,F8.4,F9.4,10X15,23X)
GO TO 307
270 WRITE(40,271)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),CALAT,CALONG,ICALMET
1LMET
271 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,15X15,18X)
GO TO 307
3370 WRITE(40,3371)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),CALAT,CALONG,
1ICALMET
3371 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,23X15,17X)
GO TO 307
470 WRITE(40,471)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),CALAT,CALONG,ICA
1LMET
471 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,28X15,5X)
GO TO 307
71 GO TO(570,570,670,670,770,870),KIND
770 WRITE(40,771)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),CALAT,CALONG,ICAL
1LMET
771 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,23X15,10X)
GO TO 72
570 WRITE(40,571)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),CALAT,CALONG,ICALMET
1LMET
571 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,10X15,23X)
GO TO 72
670 WRITE(40,671)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),CALAT,CALONG,ICA
1LMET
671 FORMAT(13X3I2,1XF2,1XF2,F3,F8.4,F9.4,15X15,18X)
GO TO 72
870 WRITE(40,871)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),CALAT,CALONG,ICAL
1LMET
871 FORMAT(13X,3I2,1XF2,F3,F8.4,F9.4,28X15,5X)
GO TO 72
72 IF(MOD(NUM,60).NE.1) GO TO 172

```


BLODGETT

```

      ITRIP=2
      GO TO 888
172  WRITE(61,40)MONTH(1),IDAY(1),HR(1),XMIN(1),CALAT,CALONG,ICALMET
      NUM=NUM + 1
      GO TO 307
307  IF(IFUDGE.EQ.1) GO TO 4444
      IF(ISLOT2-ISLOT1) 900,833,300
407  IREC=2
      GO TO 401

833  IF(MOD(IREAD(2),IDEPHT).EQ.0) GO TO 333
      IF(IREAD(1).LT.0.AND.IREAD(2).GT.0) GO TO 150
      IF(IREAD(1).GT.0.AND.IREAD(2).LT.0) GO TO 160
      GO TO 333
150  IFUDGE=1
      GO TO 300
160  IFUDGE=1
      GO TO 900
4444 IFUDGE=0
      GO TO 333
970  IF(ILBL.EQ.1) GO TO 1
      IF(INEED-2)370,372,371
1    ILBL=0
      GO TO 307
370  GO TO(1370,1370,1371,1371,1372,1373),KIND
1370 WRITE(40,1374)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG
1    (1),IREAD(1)
1374 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,10X15,23X)
      GO TO 307
1371 WRITE(40,1375)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1)
1    ,IREAD(1)
1375 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,15X15,18X)
      GO TO 307
1372 WRITE(40,1376)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1),
1    ,IREAD(1)
1376 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,23X15,10X)
      GO TO 307
1373 WRITE(40,1377)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1)
1    ,IREAD(1)
1377 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,28X15,5X)
      GO TO 307
371  GO TO(2371,2371,2372,2372,2373,      2374),KIND
2371 WRITE(40,2375)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1),IREA
1    ,IREAD(1)
2375 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,10X15,23X)
      GO TO 372
2372 WRITE(40,2376)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),
1    ,XLONG(1),IREAD(1)
2376 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,15X15,18X)
      GO TO 372

```

THIS PAGE IS BEST QUALITY PRACTICABLE
FROM COPY FURNISHED TO DDC

NRL REPORT 8305

```

2373 WRITE(40,2377)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1)
      1),IREAD(1)
2377 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,23X15,17X)
      GO TO 372
2374 WRITE(40,2378)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1),
      1),IREAD(1)
2378 FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,29X15,5X)
      GO TO 372
372 IF(MOD(NUM,60).NE.1) GO TO 472
      ITRIP=4
      GO TO 888
472 WRITE(61,40)MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1),IREAD(1)
      11)
      NUM=NUM + 1
      GO TO 307
C CHECK IF HIGH/LOW VALUES WANTED
333 IF(LSHI.NE.1)GO TO 444
401 XLONG(3)=XLONG(1)
      XLAT(3)=XLAT(1)
      IREAD(3)=IREAD(1)
      MONTH(3)=MONTH(1)
      IDAY(3)=IDAY(1)
      HR(3)=HR(1)
      XMIN(3)=XMIN(1)
      XLAT(1)=XLAT(2)
      XLONG(1)=XLONG(2)
      IREAD(1)=IREAD(2)
      MONTH(1)=MONTH(2)
      IDAY(1)=IDAY(2)
      HR(1)=HR(2)
      XMIN(1)=XMIN(2)
402 IF(IFILE.EQ.2) GO TO 610

C READ BATHYMETRY DATA

412 READ(IT,38)IYEAR,MONTH(2),IDAY(2),HR(2),XMIN(2),XLAT(2),XLONG(2),
      1UNFATH,ICKMET
      IF(ICKMET,IT)412,403
403 IF(EOF,IT)500,404

C CHECK IF DATA TO BE COPIED

404 IF(ICOPY-1)937,938,939
937 IF(XLAT(2).LT.LATMIN.OR.XLAT(2).GT.LATMAX.OR.XLONG(2).LT.LONGMIN
      1.OR.XLONG(2).GT.LONGMAX) GO TO 412
      GO TO 939
938 IDAY1=MONTH(2)*100 + IDAY(2)
      MINUTE=HR(2)*100 + XMIN(2)/10
      IF(IDAY1.LT.IDATE1) GO TO 412
      IF(IDAY1.GT.IDATE2) GO TO 500

```

BLODGETT

```
IF(IDAY1.EQ.IDATE1.AND.MINUTE.LT.IHR1)GO TJ 412
IF(IDAY1.EQ.IDATE2.AND.MINUTE.GT.IHR2)GO TJ 500
GO TO 939
```

C CONVERT DEPTH DATA IF REQUIRED

```
939 IF(KIND.EQ.4) GO TO 805
IF(KIND=2) 802,803,804
802 IREAD(2)=UNFATH/10.0
GO TO 826
803 READ(2)=ICRMET/1.8288
IF( READ(2).LT.0)GO TO 555
IREAD(2)= READ(2)+.5
GO TO 826
555 IREAD(2)= READ(2)-.5
GO TO 826
804 READ(2)=(UNFATH/10.0)*1.8288
IF( READ(2).LT.0)GO TO 556
IREAD(2)= READ(2)+.5
GO TO 826
556 IREAD(2)= READ(2)-.5
826 IUBT=XABSF(IREAD(1)-IREAD(2))
GO TO 806
```

C READ MAGNETICS

```
610 READ(IT,604)IYEAR,MONTH(2),IDAY(2),HR(2),XMIN(2),XLAT(2),XLONG(2),ITMI,IRM
ITMI,IRMI
IF(I0CHECK,IT)610,611
611 IF(EOF,IT) 500,612
```

C CHECK IF DATA TO BE COPIED

```
612 IF(ICOPY-1)940,941,942
940 IF(XLAT(2).LT.LATMIN.OR.XLAT(2).GT.LATMAX.3R.XLONG(2).LT.LONGMIN
1.OR.XLONG(2).GT.LONGMAX) GO TO 610
GO TO 942
941 IDAY1=MONTH(2)*100 + IDAY(2)
MINUTE=HR(2)*100 + XMIN(2)/10
IF(IDAY1.LT.IDATE1) GO TO 610
IF(IDAY1.GT.IDATE2) GO TO 500
IF(IDAY1.EQ.IDATE1.AND.MINUTE.LT.IHR1)GO TJ 610
IF(IDAY1.EQ.IDATE2.AND.MINUTE.GT.IHR2)GO TJ 500
GO TO 942
942 IF(KIND.EQ.5) GO TO 613
IREAD(2)=IRMI
GO TO 836
613 IREAD(2)=ITMI
GO TO 836
805 IREAD(2)=ICRMET
```

NRL REPORT 8305

```

      GO TO 826
836  IUBT=XABSF(IREAD(1)-IREAD(2))

C  CHECK FOR LOW AND HIGH VALUES

806  IF(IREAD(1).GT.IREAD(3).AND.IREAD(1).GT.IREAD(2))GO TO 820
405  IF(IREAD(1).LT.IREAD(3).AND.IREAD(1).LT.IREAD(2)) GO TO 830
812  IF(MOD-1)401,706,401

C  PRINT AND/OR WRITE ON TAPE THE REQUIRED INFORMATION

810  IF(INEED-2)668,662,661
668  GO TO(1660,1660,1661,1661,1662,1663),KIND
1660  WRITE(40,1664)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(
      1),IREAD(1)
1664  FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,10XI5,23X)
      GO TO 812
1661  WRITE(40,1665)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(
      1),IREAD(1)
1665  FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,15XI5,18X)
      GO TO 812
1662  WRITE(40,1666)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(
      1),IREAD(1)
1666  FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,23XI5,10X)
      GO TO 812
1663  WRITE(40,1667)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN( 1),XLAT(1),XLONG
      1(1),IREAD(1)
1667  FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,28XI5,5X)
      GO TO 812
661  GO TO(2660,2660,1661,2661,2662,2663),KIND
2660  WRITE(40,2664)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1),I
      1),IREAD(1)
2664  FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,10XI5,23X)
      GO TO 662
2661  WRITE(40,2665)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1),
      1),IREAD(1)
2665  FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,15XI5,18X)
      GO TO 662
2662  WRITE(40,2666)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1),
      1),IREAD(1)
2666  FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,23XI5,10X)
      GO TO 662
2663  WRITE(40,2667)IYEAR,MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1)
      1),IREAD(1)
2667  FORMAT(13X3I2,1XF2,F3,F8.4,F9.4,28XI5,5X)
      GO TO 662
662  IF(MOD(NUM,60).NE.1) GO TO 1602
      ITRIP=3
      GO TO 888
1602  WRITE(61,40)MONTH(1),IDAY(1),HR(1),XMIN(1),XLAT(1),XLONG(1),IREAD(1),

```


BLODGETT

```

11),MESSAGE(LLL)
NUM=NUM + 1
GO TO 812
820 LLL=2
    IL6L=1
    GO TO 810
830 LLL=1
    IL6L=1
    GO TO 910
500 IEX=IEX + 1
    REWIND IT
    IF(NSTP.EQ.IFX) GO TO 505
    IT=IT + 1
    READ(6,506)ISKIP,IDATE1,IHR1,IDATE2,IHR2
506 FORMAT(5I4)
    GO TO 507
505 IF(COPY-1) 420,421,422
422 WRITE(61,423)
423 FORMAT(1H1,46HTHE PROGRAM SHOULD HAVE COPIED THE ENTIRE TAPE)
    GO TO 430
420 WRITE(61,424)
424 FORMAT(1H1,79HTHE PROGRAM SHOULD HAVE COPIED ALL THE DATE POINTS
1WHICH FALL BETWEEN)
    WRITE(61,425) LATMIN,LATMAX
425 FORMAT(1H0,7X,16HSOUTH LATITUDE ,F10.5,5X16HNORTH LATITUDE ,F10.
15)
    WRITE(61,426) LONGMIN, LONGMAX
426 FORMAT(1H0,7X,16HWEEST LONGITUDE ,F10.5,5X16HEAST LONGITUDE ,F10.5
1)
    GO TO 430
421 WRITE(61,427)
427 FORMAT(1H1,95HTHE PROGRAM SHOULD HAVE COPIED ALL THE DATA POINTS W
1HICH WERE TAKEN BETWEEN THE SPECIFIED DATES)
430 IF(INEED-2)501,502,501
501 ENDFILE 4,
    REWIND 4,
502 STOP
    END

```